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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/612,286	07/07/00	ABUSLEME J	108910-00011

IM22/0817
ARENT FOX KINTNER PLOTKIN & KAHN PLLC
SUITE 600
1050 CONNECTICUT AVENUE NW
WASHINGTON DC 20036-5339

EXAMINER	
SHOSHO, C	
ART UNIT	PAPER NUMBER
1714	5

DATE MAILED: 08/17/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

PTO-90C (Rev

1- File Copy

Office Action Summary

Application No.	Applicant(s)
09/612,286	Abusleme et al.
Examiner	**Art Unit**
Callie Shosh	1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Jul 7, 2000

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-8 is/are pending in the applica

4a) Of the above, claim(s) _____ is/are withdrawn from considera

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-8 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4-5

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 1 recites the broad recitation "the complement to 100 being one or more fluorinated monomers", and the claim also recites "preferably the complement to 10- is formed of one or more perfluorinated monomers" which is the narrower statement of the range/limitation.

(b) Claim 1 recites the limitation "the reaction medium" and "the fluorinated surfactant" in line 6 and lines 7-8 respectively. There is insufficient antecedent basis for each of these limitations in the claim.

(c) Claim 1, line 8 recites the word "salified". The scope of the claim is confusing because it is not clear what is meant by this term. Clarification is requested.

(d) Claim 2 recites "wherein the fluorinated surfactant is selected from the products of the general formula...". The scope of the claim is confusing because it is not clear what is meant by "the products". Is the fluorinated surfactant represented by the formula in the claim or is the surfactant formed from the compound in the formula through some reaction? Clarification is requested.

(e) Claim 2 recites an improper Markush group. It is suggested that the phrase "M^+ is selected between Na^+ and K^+" is changed to either "M^+ is selected from the group consisting of Na^+ and K^+" or "M^+ is Na^+ or K^+".

Further, a word appears to be missing in the last line of the claim. It is suggested that after "SO_3^-," and before "M^+", the word "and" is inserted.

(f) Claim 2, which depends on claim 1, discloses that the fluorinated surfactant contains either (per)fluoroalkyl chain or (per)fluoropolyoxyalkylene chain. Claim 1 discloses "(per)fluoropolyoxyalkylene microemulsions". The scope of claim 2 is confusing because it is not clear how the fluorinated surfactant of claim 2 is either (per)fluoroalkyl chain or (per)fluoropolyoxyalkylene chain if claim 1 requires (per)fluoropolyoxyalkylene microemulsions. Doesn't the fluorinated surfactant necessarily have to contain a (per)fluoropolyoxyalkylene chain in order to form the (per)fluoropolyoxyalkylene microemulsions? Clarification is requested.

(g) Claim 3 recites " wherein M^+ is preferably K^+". "Description of examples or preferences is properly set forth in the specification rather than the claims. If stated in the claims, examples and preferences lead to confusion over the intended scope of a claim". See MPEP 2173.05(d). Thus, it is suggested that "preferably" is deleted from the above phrase.

(h) Claim 4 recites "potassium inorganic initiators are preferred". The scope of the claim is confusing because it is not clear what types of potassium inorganic initiators are encompassed by this phrase. It is suggested that the phrase is re-written as "wherein the initiator is a potassium inorganic initiator".

(i) Claim 6 recites the limitation "the temperature" and "the pressure" in line 1. There is insufficient antecedent basis for each of these limitations in the claim.

(j) Claim 7 depends on claim 10. However, there are only 8 pending claims. Should "10" be changed to "1"?

(k) Claim 7 recites "wherein the presence of liquid CTFE in the reaction medium is preferred". The scope of the claim is confusing because it is not clear what is meant by "is preferred". The presence of liquid CTFE is preferred as compared to what - a different type of liquid, no liquid at all, etc? It is suggested that the phrase is re-written as "wherein the reaction medium comprises liquid CTFE".

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Abusleme et al. (U.S. 5,498,680).

Abusleme et al. disclose a process of synthesizing chlorotrifluoroethylene homopolymer or copolymer wherein the process is conducted in perfluoropolyoxyalkylene microemulsion which comprises perfluoropolyoxyalkylene surfactant identical to those presently claimed in the presence of alkali metal persulfate initiator. The process is conducted at temperature of 10^0-

150^0 C and 15-40 bar (col.1, lines 19-27, col.4, lines 5-21 and 63-64, col.5, lines 18-41, and col.6, lines 17-21).

In light of the above, it is clear that Abusleme et al. anticipates the present claims.

5. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Abusleme et al. (U.S. 6,096,795).

Abusleme et al. disclose a process of synthesizing chlorotrifluoroethylene homopolymer or copolymer by polymerizing chlorotrifluoroethylene in a microemulsion comprising perfluoropolyoxyalkylene surfactant identical to that presently claimed and fluorinated liquid in the presence of sodium or potassium persulfate initiator. The process is conducted at temperature of -20^0-100^0 C and 10-20 bar (col.2, lines 53-65, col.3, lines 22-23 and 44-67, and col.7, lines 28-34).

In light of the above, it is clear that Abusleme et al. anticipates the present claims.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeSimone et al. (U.S. 5,672,667) in view of Abusleme et al. (U.S. 5,498,680).

DeSimone et al. disclose a process for synthesizing chlorotrifluoroethylene polymer by providing a mixture of water, fluorinated surfactant, and fluorinated solvent, i.e. a microemulsion, adding chlorotrifluoroethylene and alkali metal persulfate initiator, and then

polymerizing chlorotrifluoroethylene. The polymerization occurs at -50^0-200^0 C and 500 psi or 35 bar (col.3, lines 1-3, 25, and 31, col.4, lines 7, 17, and 36-38, col.5, lines 35-36 and 66, and col.6, lines 31-41).

The difference between DeSimone et al. and the present claimed invention is the requirement in the claims of (per)fluoropolyoxyalkylene surfactant.

DeSimone et al. broadly disclose the use of fluorinated surfactant, but do not explicitly disclose the use of (per)fluoropolyoxyalkylene surfactant.

Abusleme et al., which is drawn to process for synthesizing chlorotrifluoroethylene polymer, disclose the use of (per)fluoropolyoxyalkylene surfactant identical to that presently claimed in order to stabilize the polymer particles (col.5, lines 18-36).

In light of the motivation for using specific type of surfactant disclosed by Abusleme et al. as described above, it therefore would have been obvious to one of ordinary skill in the art t use such surfactant in the process of DeSimone et al. in order that the microemulsion is stable, and thereby arrive at the claimed invention.

9. Claims 1-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (U.S. 6,046,271) either alone, or, in view of Abusleme et al. (U.S. 5,498,680).

Wu et al. disclose a process of synthesizing chlorotrifluoroethylene homopolymer or copolymer by polymerizing chlorotrifluoroethylene in a microemulsion comprising perfluoropolyoxyalkylene surfactant identical to those presently claimed and fluorinated solvent

in the presence of persulfate initiator (col.3, lines 14-21, 57, and 63-66 and col.4, lines 11-19, 24, and 29-31).

The only deficiency of Wu et al. is that there is no disclosure of specific type of initiator as presently claimed.

On the one hand, one of ordinary skill in the art would have recognized that the broad disclosure of persulfate clearly encompasses potassium persulfate, and it therefore would have been obvious to, as well as within the skill level of, one of ordinary skill in the art, absent evidence to the contrary, to choose persulfate initiator, including potassium persulfate, and thereby arrive at the claimed invention.

On the other hand, Abusleme et al., which is drawn to process for synthesizing chlorotrifluoroethylene polymer, disclose that it is conventional to use alkali metal persulfate when synthesizing chlorotrifluoroethylene polymer (col.4, lines 63-64).

In light of the disclosure of Abusleme et al., it therefore would have been obvious to one of ordinary skill in the art to use specific type of initiator in the process of Wu et al., and thereby arrive at the claimed invention.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wu (U.S. 5,677,366) disclose process for synthesizing chlorotrifluoroethylene polymer, however, there is no disclosure of (per)fluoropolyoxyalkylene microemulsion or specific type of initiator as presently claimed.

EP 816397 disclose process for synthesizing fluorinated polymers, however, the polymers only contain 0.5-6 mol% chlorotrifluoroethylene which is in direct contrast to the present claims which require at least 80 mol%.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie Shosho whose telephone number is (703) 305-0208. The examiner can normally be reached on Mondays-Thursdays from 7:00 am to 4:30 pm. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

CS

Callie Shosho

8/16/01

VASU JAGANNATHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700